

Lunar Eclipse Exposure Guide

ISO	f/Number									
25		1.4	2	2.8	4	5.6	8	11	16	22
50		2	2.8	4	5.6	8	11	16	22	32
100		2.8	4	5.6	8	11	16	22	32	44
200		4	5.6	8	11	16	22	32	44	64
400		5.6	8	11	16	22	32	44	64	88
800		8	11	16	22	32	44	64	88	128
1600	8	11	16	22	32	44	64	88	128	176

Eclipse Phase	Q	Shutter Speed								
8:36	No Eclipse									
	Full Moon	8	1/4000	1/2000	1/1000	1/500	1/250	1/125	1/60	1/30
	Penumbral Eclipse									
	Magnitude = 1.0	7	1/2000	1/1000	1/500	1/250	1/125	1/60	1/30	1/15
	Partial Eclipse									
	Magnitude = 0.00	7	1/2000	1/1000	1/500	1/250	1/125	1/60	1/30	1/15
	Magnitude = 0.30	6	1/1000	1/500	1/250	1/125	1/60	1/30	1/15	1/8
	Magnitude = 0.60	5	1/500	1/250	1/125	1/60	1/30	1/15	1/8	1/4
	Magnitude = 0.80	4	1/250	1/125	1/60	1/30	1/15	1/8	1/4	1/2
	Magnitude = 0.90	3	1/125	1/60	1/30	1/15	1/8	1/4	1/2	1 sec
10:38	Magnitude = 0.95	2	1/60	1/30	1/15	1/8	1/4	1/2	1 sec	2 sec
	Total Eclipse									
10:41	Danjon Value: L=4	-3	1/2	1 sec	2 sec	4 sec	8 sec	15 sec	30 sec	1 min
	Danjon Value: L=3	-5	2 sec	4 sec	8 sec	15 sec	30 sec	1 min	2 min	4 min
ISO 1600	Danjon Value: L=2	-7	8 sec	15 sec	30 sec	1 min	2 min	4 min	8 min	15 min
	Danjon Value: L=1	-9	30 sec	1 min	2 min	4 min	8 min	15 min	30 min	—
	Danjon Value: L=0	-11	2 min	4 min	8 min	15 min	30 min	—	—	—

Instructions

Choose the ISO speed in the upper left column. Next, select the f/number of the lens or telescope (on same line as ISO). Finally, drop straight down to the bottom table to get the correct exposure for each stage of the lunar eclipse. The magnitude of a partial eclipse is the fraction of the Moon's diameter immersed in Earth's umbral shadow (in the case of a penumbral eclipse, it is the penumbral shadow).

Note that the brightness of a total eclipse varies with different Danjon values (L). All exposure times in this guide are estimates. For best results, use them as a guide and bracket your exposures.

Exposure Formula: $t = f^2 / (I \times 2^Q)$ where: t = exposure time (sec); f = f/number;
 I = ISO speed; Q = brightness value